Amendments to the Claims

Listing of Claims:

5   Claim 1 (original): An intra-field interpolation method for generating a target pixel value,
    the method comprising:
    receiving a plurality of pixel values of an image field;
    generating a first pixel difference set from the received pixel values using a first
        pixel difference algorithm;
10   generating a second pixel difference set from the received pixel values using a
        second pixel difference algorithm; and
    blending the received pixel values according to the first pixel difference set and the
        second pixel difference set, to generate the target pixel value.

15 Claim 2 (original): The intra-field interpolation method of claim 1, further comprising:
    low-pass filtering the received pixel values.

    Claim 3 (original): The intra-field interpolation method of claim 1, wherein the pixel
        values of the image field comprises pixel values of at least one upper line of the
20   target pixel value, and pixel values of at least one lower line of the target pixel
        value.

    Claim 4 (original): The intra-field interpolation method of claim 3, wherein the first pixel
        difference set is generated from the pixel values of the upper line and of the lower
25   line.

    Claim 5 (original): The intra-field interpolation method of claim 3, wherein the second

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pixel difference set is generated from the pixel values of the upper line and of the lower line.

Claim 6 (original): The intra-field interpolation method of claim 1, wherein each entry of
5   the first pixel difference set is generated by calculating the differences among a plurality of pixel values of the image field along a corresponding direction.

Claim 7 (original): The intra-field interpolation method of claim 1, wherein each entry of the second pixel difference set is generated by calculating the differences between a
10   plurality of pixel values of the image field and a plurality of reference pixel values along a corresponding direction.

Claim 8 (original): The intra-field interpolation method of claim 1, further comprising: calculating the differences among a plurality of pixel values of an image line of the
15   image field, to indicate a gradient characteristic of the pixel values of the image line.

Claim 9 (original): The intra-field interpolation method of claim 1, wherein the image line is an upper line of the target pixel value.
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Claim 10 (original): The intra-field interpolation method of claim 1, wherein the image line is a lower line of the target pixel value.

Claim 11 (original): The intra-field interpolation method of claim 1, further comprising:
25   selecting an angle of blending referencing to the gradient characteristic of the pixel values of the image line.

Claim 12 (original): The intra-field interpolation method of claim 1, further comprising:

selecting an angle of blending according to the first pixel difference set and the second pixel difference set.

Claim 13 (original): The intra-field interpolation method of claim 12, further comprising:

storing information relating to the angle of blending resulted from the course of a previous step of selecting the angle of blending.

Claim 14 (currently amended): The intra-field interpolation method of claim 13, wherein the angle of blending is selected referencing to the [[stroed]] stored information, in addition to the first pixel difference set and the second pixel difference set.

Claim 15 (original): The intra-field interpolation method of claim 1, wherein the blending step comprises:

weighted blending a first derived pixel value and a second derived pixel value of the received pixel values of the image field.

Claim 16 (original): The intra-field interpolation method of claim 15, wherein the first derived pixel value is derived from a plurality of pixel values along a selected angle of blending.

Claim 17 (original): The intra-field interpolation method of claim 15, wherein the second derived pixel value is derived from a plurality of pixel values along a normal axis.

Claim 18 (original): The intra-field interpolation method of claim 1, wherein the blending step comprises:

calculating a first weighting factor according to pixel values along a selected angle of blending.

Claim 19 (original): The intra-field interpolation method of claim 18, wherein the
blending step further comprising:

weighted blending the received values of the image field according to the first
weighting factor.

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Claim 20 (original): The intra-field interpolation method of claim 18, wherein the
blending step further comprising:

calculating a second weighting factor; and

weighted blending the received values of the image field according to the first

10   weighting factor and the second weighting factor.

Claim 21 (new): An intra-field interpolation method for generating a target pixel value,
the method comprising:

receiving a plurality of pixel values of an image field;

15   generating a first pixel difference set from the received pixel values using a first
pixel difference algorithm;

calculating differences among a plurality of pixel values of an image line of the
image field, to indicate a gradient characteristic of the pixel values of the
image line;

20   selecting a plurality of candidate angles according to the first pixel difference set
and the gradient characteristic;

generating a second pixel difference set from the received pixel values using a
second pixel difference algorithm; and

blending a plurality of pixel values derived from the received pixel values according

25   to the candidate angles, the first pixel difference set and the second pixel
difference set, to generate the target pixel value.

Claim 22 (new): An intra-field interpolation method for generating a target pixel value of

a target additional pixel, the method comprising:

receiving a plurality of pixel values of an image field;

generating a first pixel difference set from the received pixel values using a first pixel difference algorithm;

5   generating a second pixel difference set from the received pixel values using a second pixel difference algorithm;

selecting an angle of blending according to the first pixel difference set, the second pixel difference set, and a known angle of blending utilized for obtaining a pixel value of a previous additional pixel processed prior to the target

10   additional pixel; and

obtaining the target pixel value through blending a plurality of pixel values along the angle of blending.